

Ser. FIRMISTERNIA.

Fam. RANIDÆ.

Gen. RANA, Linn.,

I. Sectio *Ranæ aquaticæ*.

RANA ESCULENTA, Linn. Syst. Nat. i. p. 357.

- a. Forma *typica*. Torino, Domodossola, Bologna, Roma, Foligno.
- b. Subsp. *lessonæ*, Camer. Valle padana; Toscana; Sicilia.
 - a. Var. *immaculata*. Piemonte, Novarese, Veneto.
 - β. Var. *maculata*. Novarese, Veneto.
 - γ. Var. *punctata*. Novarese, Veneto.
 - δ. Var. *nigrovittata*. Barbarighe (Veneto).

II. Sectio *Ranæ fuscæ*.

RANA MUTA, Laur. Synops. Rept. p. 30 (1768).

Var. *acutirostris*.

Var. *obtusirostris*.

Hab. Roccaforte, Casteldelfino, Moncenisio, Col. d. S. Giovanni (Vin), Ceres, Pra Sec du Ferret, Col. d'Ollen, Occhieppo inferiore, Alpi di Devero, Alpi di Veglia, Cascata della Frua, Passo della Colma (Ossola), Domodossola, Valle di Non (Trentino), Bardonecchia.

RANA LATASTII, Boulenger, Bull. Soc. Zool. Franç. (1880).

Hab. Milano, Varese, Veneto, Toscana.

RANA AGILIS, Thomas, Ann. Sc. Nat. 4 ser. vol. iv. p. 365, tab. 7 (1855).

Hab. Torino, Rivoli, Rosta, Testona, Rivarossa, Gattinara, Occhieppo inferiore, Milano, Varese, Canton Ticino, Padova, Verona, Venezia, Treviso, Belluno, Imola, Modena, Bologna, Pisa, Castinoen, Monte Morello, Porto Maurizio, Modica.

7. Remarks on a Paper by Dr. A. B. Meyer on a Collection of Birds from the East-Indian Archipelago, with special reference to those described by him from the Timor-Laut group of Islands. By H. O. FORBES, F.Z.S., F.R.G.S.

[Received June 12, 1884.]

Through Dr. Meyer's kindness I have had the pleasure of perusing his interesting paper, read at the International Ornithological Congress lately held in Vienna, entitled "Nene und ungenügend bekannte Vögel, Nester und Eier aus dem Ostindischen Archipel im Königl. Zoologischen Museum zu Dresden," and propose to offer a few remarks on those species which he notices from the Timor-Laut group of Islands.

The collection of birds on which Dr. Meyer founds his observations was made by three Amboinese in *identically the same* region as that from which the collection described by Dr. Sclater last year (P. Z. S. 1883, pp. 48 & 194) was sent by me. Two of these collectors arrived and departed in company with myself, and therefore spent three months there; the other had arrived three months in advance. Being there without any European superintendence, and surrounded by difficulties and dangers, they did not extend their excursions to any great distance from their dwelling in the village of Ritabel. My own limits were also circumscribed; but my area included and considerably exceeded all the region collected over by these three hunters, and was, of course, far more thoroughly investigated in every way. Inasmuch as I observe that Dr. Meyer in several instances speaks of "Timor-Laut" and "Tenimber," and that the species under consideration in his case came from the "südlichen (Timor-Laut) Stammen" of the region, those collected by me being inferred to come from some other part, it may be well to state that the term "Tenimber Islands" has been applied to the group of islands of which Yamdena (by the Malays called Timor-Laut) is the largest—lying between $6^{\circ} 35'$ – $8^{\circ} 25'$ S. lat., and $130^{\circ} 35'$ – $132^{\circ} 5'$ E. long. The distance separating the members of the group is so small (the sea at low-tide being in many cases quite shallow between them) that they may be considered almost one great island broken up into fragments. Latur, spoken of by Dr. Meyer as an island (on the authority of the Resident of Amboina), is part of the mainland of Yamdena.

Of the birds recorded by Dr. Meyer from Timor-Laut, eight are not included in Dr. Sclater's list; but of these the Accipitrine birds *Baza subcristata* (Gld.), and *Cuncuma (Haliaeetus) leucogaster* (Gm.), were observed, though not obtained by me; *Urospizias albiventris* (Salv.), *Sauropatis sancta* (V. & H.), and *Eurystomus pacificus* (Lath.) I did not see. There may possibly be some doubt as to the occurrence of the last-named in Timor-Laut. I saw the Amboinese hunters shoot and prepare, on their way home to Amboina, during our stay both in Aru and Ké, several birds and add them to their Timor-Laut collections. What the species were I cannot now remember. As the best of natives cannot be trusted to label skins correctly without supervision, this fact adds a slight element of uncertainty as to the locality of some of the specimens. I obtained spirit-specimens of a *Hirundo* (young), probably *H. javanica*. I examined, but could not preserve, a specimen of *Porphyrio melanopterus*. The two seabirds mentioned by Dr. Meyer, and the *Geocichla machiki* (P. Z. S. 1883, p. 588) complete the list of birds at present known from this interesting group. With the exception of those just mentioned, Dr. Meyer has had before him no species of which there is not a large series of specimens represented in my collection—those, in fact, on which Dr. Sclater's original descriptions were founded. I have now again carefully gone over them with Dr. Meyer's paper in my hand.

The *Geoffroius* determined by Dr. Sclater to be *G. keyensis* (Salv.)

is elevated into a new species, *G. timorlaensis* (Meyer). Dr. Meyer admits that the separation is based on very minute differences¹, which, however, he believes will be found constant. On comparing the Timor-Laut birds with Ké specimens in the British Museum determined by Count Salvadori, the case stands as follows:—Timor-Laut skins vary from 240–290 millim., while *G. keyensis* (Salv.) ranges from 235–255 millim. Length of wing in the former 165–170 millim., and in *G. keyensis* (Salv.) 175–185 millim. The tail is shorter in *G. timorlaensis* than in *G. keyensis*; while the tarsus agrees in both. In Timor-Laut specimens the external web of the outermost primary, where in the upper portion the colour is *blue*, and in the lower *green*, exactly agrees with a specimen from Ké, of the ‘Challenger’ collection, determined as *G. keyensis* by Salvadori. Both these are males. A female from Ké has the same region of this feather blue throughout its length; while a female from Timor-Laut has a very narrow yellowish edge to the green-blue margin of the primary. A female, of the ‘Challenger’ naturalists, also determined by Salvadori as *G. keyensis*, is identical in coloration; while, lastly, the colour of the under surfaces of the wings can scarcely be detected to differ. It would appear therefore, so far as the skins from Timor-Laut and Ké, in the British Museum and in my own collection, afford material for forming an opinion, that these differential characters will not be found to have the constancy that Dr. Meyer expected. The wing measurements certainly are less in Timor-Laut specimens. It is probable that the differences in coloration are due to age only, and are not sufficient to separate the Ké from the ‘Tenimber bird.’

Artamus muschenbroeki, Meyer, is the name proposed for the Timor-Laut Wood-Swallow, which had been determined by Dr. Selater as *A. leucogaster* (Val.) (P. Z. S. 1883, pp. 51 & 200). Of the *Artamus* from Dr. Meyer’s identical locality I have in my own collection three specimens. I have examined carefully seventeen others from different localities, in the very long series in the British Museum derived from *Celebes*, the *Philippines*, *Sumatra*, *Java*, *Lombok*, *Flores*, *Timor*, *Batjian*, *Buru*, *Halmaheira*, *Goram*, *Aru*, *Batanta*, and from *N. Australia*. The species in the Dresden Museum from the underlined localities are admitted by Dr. Meyer to belong to *A. leucogaster*. It is impossible to separate my Timor-Laut skins from specimens collected in Zebu by the ‘Challenger’ Expedition, and determined by Lord Tweeddale (P. Z. S. 1877, pp. 544–545). The colour in both is absolutely the same. Lord Tweeddale, however, remarks on the difference of dress—“one in which the upper plumage is of a light bluish and cinereous colour, the other where it is of a more smoky brown and bluish ash. This does not seem to depend on sex; for one of these examples (Zebu 369) is marked ♂, while I possess a Luzon example exactly similar, which Dr. Meyer determined to be a ♀. The other Zebu example (No. 370) is marked ♀, and is in

¹ “*Geoffroi* [*timorlaensis*], *G. keyensi*, Sal., simillimus, sed minor et primariæ extimæ pogonio externo virescenti diversus.”

the paler bluish-grey attire." I feel satisfied, after examining the specimens in the British Museum and in my own collection, that the difference in coloration is one due to age, for in young birds the plumage is lighter than in the adult state. Dr. Meyer's observation that the dark mantle reaches, in Timor-Laut skins only, just to the root of the tail, while in *A. leucogaster* it overlaps by about 1 centimetre, is, in as far as the series referred to enables an opinion to be formed, one not sufficiently constant to support specific separation. In several Timor-Laut specimens examined the dark plumage overlaps the tail more than 1 centimetre, and even more than in others from different parts of the Archipelago which have been hitherto recognized as *A. leucogaster*. In skins of *A. leucogaster* from Mysol and Macassar, the mantle is just conterminous with the root of the tail. Really, however, the absolute constancy of these measurements can be determined only with accuracy in the flesh, for the way in which the skin is manipulated will increase or diminish them by several centimetres. The same holds with regard to another character given as differential—the greater amount, in Timor-Laut specimens, of white on the rump and upper tail-coverts. In my own specimens the white on the rump varies from 22–31 millim. in length, while in eight other skins from different regions of the Archipelago the range is from 26–32 millim., giving in the latter, indeed, a wider zone than in those from Timor-Laut. In the long series of British-Museum skins, the *white tips of all but the two middle tail-feathers*, another of Dr. Meyer's differential characters, is also quite inconstant. In several Timor-Laut skins not only these two tail-feathers, but several others of the remiges, are without a white band, while in some examples it is even less than in undisputed *A. leucogaster*. In young birds the white tips are very pronounced, not on the remiges only, but on the primaries and secondaries of the wing also. The Philippine (Zebu) birds, already referred to, have the tips of the remiges quite as broad as in those from Timor-Laut. In a Lombock specimen ("ex Stevens") the tips of *all* the feathers are white; a Batanta and a New-Holland specimen have no white tips at all; one from Halmahera and one from Buru (both from Mr. Wallace's collection), except in one feather, have no white on the remiges; yet all of them have been determined to be, and are undoubtedly *A. leucogaster* (Val.).

As to the species of *Pachycephala (arctitorquis, Sclater)* from Timor-Laut, we have the curious fact that, notwithstanding my more thorough examination of a wider field, the whole series obtained by me contained, if Dr. Meyer is correct in his determinations, no *females* of *P. arctitorquis* and no *males* of *P. riedelii* (were Dr. Meyer's specimens sexed?); while those who made the collection examined by Dr. Meyer obtained in Babbar (an island at no great distance to the W. of Yamdena) *females* of *P. arctitorquis*, and evidently *no males* (so recognized by Dr. Meyer), and *females* of *P. kibirensis* (Meyer), without *one of its moles*. I daily saw the collections made in Timor-Laut by the Amboinese hunters above mentioned, and I feel confident that no species of

Pachycephala—one of the groups I am particularly interested in—was obtained by them which was not also in my collection. After comparing Dr. Meyer's descriptions with the long series I have of this bird, nearly all of which Dr. Sclater had before him when writing his original description, and which contains birds in almost every stage of plumage, from the young bird to the fully adult, I have little hesitation in affirming that *P. arctitorquis*, ♀ (Meyer), from Timor-Laut and Babbar, is but the immature male, and *P. kebi-rensensis* (Meyer) the nearly fully adult female of *P. arctitorquis*, in which the colour of the bill, when fully adult, is black; while *P. riedelii* is a still younger female of the same species. From this it would seem clear to me that *P. arctitorquis*, Scl., occurs in Babbar also, for the examples before Dr. Meyer from that island were young males and immature females, while from Timor-Laut he had adult males, immature males (♀, Meyer), and still younger females (*riedelii*, Meyer).

In describing a *Myzomela*, ♀, from Ceram, Dr. Meyer is in doubt as to whether it may not be the female of the species described by me as *M. wakoloensis* from Buru, without knowing the dimensions. As these are not given in the 9th vol. of the Cat. of Birds in the British Museum, I append them here. Total length 93 millim., wings 52·5–55, tail 35–38, tarsus 15, beak 12–13.

Philemon timorlaoensis is the name proposed by Dr. Meyer for the species designated *P. plumigenis* by Sclater (P. Z. S. 1883, pp. 51 & 195). The Timor-Laut bird certainly differs from that from Ké, but the differences are scarcely to be formulated in words. The Tenimber bird seems intermediate between the Buru and Ké birds. Dr. Gadow, in the 9th vol. of the Cat. of Birds, has not separated the species, nor has Mr. Sharpe in the 16th part of Gould's 'Birds of New Guinea,' though he has expressed doubts as to their identity. Instead, however, of the rather ineuphonious cluster of vowels in the latter part of the new designation, may I suggest the more correct *timorlautensis*, inasmuch as *timorlao* is evidently a corruption of the word for "Sea-ward Timor"?

The species of *Calornis* from the Tenimber Islands has been distinguished from *C. metallica* as a new species, *C. circumscripta*. I have a large series of skins in my collection, and that they belong to a species distinct from *C. metallica* is undoubted, and, as Dr. Meyer observes, they can, when mixed up with any number of species of *Calornis*, be unhesitatingly picked out by the coloration of the throat. The throat-plumes in *C. metallica* are prominently longer and more mucronate than those in the Timor-Laut specimens. The violet of the mantle, however, contrary to the note of Dr. Meyer, has the blue-green reflexions observable in *C. metallica* quite distinct in most of my specimens, if the eye be "placed between the bird and the light" in position A, as described by Dr. Gadow (P. Z. S. 1882, p. 409), that is with "the eye and the light almost in a level with the plane to be examined." A species of *Calornis* discovered by Mr. Wallace in Mysol (of which the type is in the British Museum) was named *C. gularis* by G. R. Gray; but was considered by Count Salvadori

(the label bearing the name in his handwriting) as *C. metallica*, while it remained unique. After comparison of this skin with Timor-Laut specimens, the two are unquestionably identical. *C. circumscripta* (Meyer) must, therefore, be considered henceforth a synonym of *C. gularis*, G. R. Gr., which must now be removed from being a synonym of *C. metallica* to specific rank, confirming the opinion expressed in 1876 ('Ibis,' p. 46) by Mr. Bowdler Sharpe, who says:—"I must pronounce this, contrary to Lord Walden's opinion, a very good species, distinguished by its purple throat and small bill, the culmen only measuring .65 inch, as against .85 in *C. viridescens*." This measurement is not the only one by which the species can be distinguished, for the plumage in every specimen is so constant that the skins cannot easily be confounded with any other. *C. gularis* is slightly less, and more brightly metallic—a more beautiful bird, in my opinion, even than the true *C. metallica*; the purple of the throat, which is more chastely and delicately feathered than in *C. metallica*, is separated from the purple of the back and upper breast by a *narrow* and *very bright* green band. The total length of the bird in 14 specimens ranged from 210–250 millim. Count Salvadori (P. Z. S. 1878, p. 89) remarks:—"Some specimens (of *C. metallica*) have the throat more purplish than others, one from Mysol (*C. gularis*, Gray) cannot be separated from others from Halmabeira and Cape York." I have not seen any Halmabeira specimens; but the Cape-York bird undoubtedly differs by the purple on the breast, which is green in *C. gularis*; the green neck-band is much broader, and the throat is more markedly green and without purple. It has, I believe, been separated as *C. purpurascens*, Salv. The Admiralty-Island *Calornis* is somewhat similar to *C. gularis*, but is at once distinguishable by the absence of purple on the back; the head is purple; and it is known as *C. purpureiceps*.

The designation *Ptilopus flavovirescens* has been proposed by Dr. Meyer for the Timor-Laut Pigeon determined by Dr. Sclater as *P. xanthogaster* (Wagl.). The difference lies, he notes, in the "Gelbgrünlichgraue" of the head and neck. From a careful comparison of my own skins with those in the British Museum, I feel confident that the differences observed by Dr. Meyer will be found to be those due to age only. Very young birds have a grey band over the forehead, and the rest of the head with the neck and back nearly of the same shade of green; with advancing age we find every shade of green and yellowish-green to Dr. Meyer's "Gelbgrünlichgraue." The head of the fully adult bird is purplish grey, each feather having a pale yellow submarginal crescent across it.

Some of the skins obtained by me differ as to head and neck in no respect from specimens brought by Mr. Wallace from Banda; others have the head and neck of a grey colour tinged with every shade through green-blue to yellow, differing according to the age of the birds. I cannot detect in the specimens I have any difference in breadth of the "Gelb der Kehle" as compared with Mr. Wallace's specimens; nor is the *breast shield* constantly of one shade in all the specimens I have examined. In the Banda example (of Wallace) it

is darker than any Timor-Laut specimen before me. In agreement with all those in the British Museum, my Timor-Laut specimens have the outer margin of the primaries and secondaries as in Salvadori's description, "flavo-marginatis."

Dr. Meyer throws some doubt on a species of *Rhipidura* (*R. lenzi*, Blas.) having its true habitat in Celebes. He suggests that it is more likely to have been *bought only* in Menado. I am happy in being able to confirm his suspicion that its habitat is in the Moluccas. I obtained a specimen in Amboina, which is now deposited in the British Museum.

POSTSCRIPT.

It will be seen from the above remarks that no species not hitherto described, or of which specimens were not before Dr. Sclater when he wrote his paper on this subject in April last, has been brought to light by Dr. Meyer's collectors. So far as our present knowledge goes, the following is a complete list of the birds known to occur on the Tenimber Islands, embracing 69 species, of which 24 (marked *) are peculiar to the group.

I. ACCIPITRES.

1. ASTUR ALBIVENTRIS (Salvad.).
Urospizias albiventris, Salv., Meyer, op. sup. cit.
2. HALIAETUS LEUCOGASTER (Gm.).
Cuncuma leucogaster, Gm., Meyer, op. sup. cit.
3. HALIASTUR GIRRENERA (V.).
4. BAZA SUBCRISTATA, Gould.
5. PANDION LEUCOCEPHALUS, Gould.
6. CERCHNEIS MOLUCCENSIS (H. & J.).
Tinnunculus moluccensis, Sclater, P. Z. S. loc. sup. cit.
7. *NINOX FORBESI, Sclater.
8. *STRIX SORORCULA, Sclater.

II. PSITTACI.

9. *TANYGNATHUS SUBAFFINIS, Sclater.
10. GEOFFROIUS KEIENSIS, Salv.
G. timorlaoensis, Meyer, op. sup. cit.
11. *ECLECTUS RIEDELI, Meyer.
12. *EOS RETICULATA, S. Müll.
13. CACATUA SANGUINEA, Gould.

III. PICARIÆ.

14. SAUROPATIS CHLORIS, Bodd.
15. S. SANCTA, V. & H.

IV. PASSERES.

16. *PIEZORHYNCHUS CASTUS (Sclater).
Monarcha castus, Scl. P. Z. S. 1883, loc. sup. cit.
17. *HETERANAX MUNDUS (Sclater).
Monarcha mundus, Scl. P. Z. S. 1883, loc. sup. cit.
18. MONARCHA NITIDUS.
19. *RHIPIDURA HAMADRYAS, Sclater.
20. *RHIPIDURA FUSCO-RUFA, Sclater.
21. *RHIPIDURA OPISTHERYTHRA, Sclater.
22. *MYIAGRA FULVIVENTRIS, Sclater.
23. *MICRÆCA HEMIXANTHA, Sclater.
24. *ARTAMIDES UNIMODUS, Sclater.
Graucalus unimodus, Scl. P. Z. S. loc. sup. cit.
25. GRAUCULUS MELANOPS (V. & H.).
26. *LALAGE MÆSTA, Sclater.
27. ARTAMUS LEUCOGASTER, Val.
A. musschenbroeki, Meyer.
28. DICRUOPSIS BRACTEATUS (Gould).
29. *PACHYCEPHALA ARCTITORQUIS, Sclater.
P. kebirensis, Meyer, op. sup. cit.
P. riedelii, Meyer, op. sup. cit.
30. *P. FUSCO-FLAVA, Sclater.
31. *DICÆUM FULGIDUM, Sclater.
32. *MYZOMELA ANNABELLÆ, Sclater.
33. STIGMATOPS SQUAMATA, Salvad.
34. *PHILEMON TIMORLAUTENSIS, Meyer.
P. plumigenis, Scl. P. Z. S. 1883, loc. sup. cit.
35. *ZOSTEROPS GRISEIVENTRIS, Sclater.
36. *GERYGONE DORSALIS, Sclater.
37. *ORIOLOUS DECIPIENS, Sclater.
Mimeta decipiens, Scl. P. Z. S. 1883, loc. sup. cit.

38. **GEOCICHLA MACHIKI*, H. O. Forbes.
Geocichla sp. inc., Sclater, P. Z. S. 1883, loc. sup. cit.
39. *MUNIA MOLUCCA* (L.).
40. *ERYTHRURA TRICHROA* (Kittl.).
41. *CALORNIS GULARIS*, G. R. Gr.
C. metallica, Sclater, P. Z. S. loc. sup. cit.
C. circumscripta, Meyer, op. sup. cit.
42. **CALORNIS CRASSA*, Sclater.
43. *CORVUS VALIDISSIMUS*, Schl.
44. (?) *EURYSTOMUS PACIFICUS*, Lath. fide Meyer, op. sup. cit.
45. *HIRUNDO JAVANICA*, Sparrm.

V. COLUMBÆ.

46. *PTILOPUS WALLACII*, Gr.
47. *P. XANTHOGASTER*, Wagl.
P. flavovirescens, Meyer, op. sup. cit.
48. *CARPOPHAGA CONCINNA*, Wall.
49. *C. ROSACEA*, Temm.
50. *MYRISTICIVORA BICOLOR*, Scop.
51. *MACROPYGIA KEIENSIS*, Salv.
Macropygia sp. inc., Sclater, P. Z. S. 1883, loc. sup. cit.
52. *GEOPELIA MAUGEI*, Temm.
53. *CHALCOPHAPS CHRYSOCHLORA*, Wagl.

VI. GALLINÆ.

54. **MEGAPODIUS TENIMBERENSIS*, Sclater.

VII. GRALLATORES.

55. *ORTHORHAMPHUS MAGNIROSTRIS*, Geoff.
56. *CHARADRIUS FULVUS*, Gm.
57. *ÆGIALITIS GEOFFROYI*, Wagl.
58. *LOBIVANELLUS MILES*, Bodd.
59. *TOTANUS INCANUS*, Gm.
60. *NUMENIUS VARIEGATUS*, Scop.

61. ARDEA SUMATRANA, Raffles.
62. HERODIAS ALBA, L.
H. torra (B. Ham.), Meyer, op. sup. cit.
63. DEMIGRETTA SACRA, Gm.
64. NYCTICORAX CALEDONICUS, Gm.
65. PORPHYRIO MELANOPTERUS, Temm.

VIII. NATATORES.

66. NETTAPUS PULCHELLUS, Gould.
 67. DENDROCYGNA GUTTATA, Müll.
 68. TADORNA RADJAH, Garn.
 69. ONYCHOPRION ANÆSTHETUS, Scop.
8. On some New and Little-known Species of Butterflies of the Genus *Teracolus*. By Lt.-Col. C. SWINHOE, F.L.S., F.Z.S.

[Received June 14, 1884.]

(Plates XXXIX. & XL.)

The Butterflies of the genus *Teracolus* of which this paper treats are very rare in collections; even the National collection contains but a poor lot of Asiatic specimens. The insects are of a very delicate nature, very difficult to capture without injury, and consequently many of the few specimens to be found in collections are represented by mere fragments.

These beautifully coloured delicate insects are, in the few species yet known, so much like one another, that many lepidopterists are inclined to club them together, and this more particularly with reference to the different species in the groups of *Teracolus faustus*, *T. danuë*, and *T. vestalis*, and indeed, until the appearance of Mr. Butler's revision of the genus in our 'Proceedings' in January 1876, the whole *T. vestalis* group, a perfectly distinct group of which there are many species, appear to have been looked upon as the females of *T. phisadia* of Godart. The only four species of the *T. vestalis* group yet described have been described by Mr. Butler.

The real home of this genus is the sandy desert, and it is a most extraordinary fact that, the worse the locality, where nature is a barren wilderness of nothing but intense heat and sand, the more beautiful are the species to be found there, many of them having patches of most brilliant golden orange—regular sun-patches, just as if these patches had been burnt into their wings by the sun.

I have here referred to and described 22 species in all, 16 of